

IN THE CLAIMS

Current Listing Of Claims:

1.-12. (Cancelled)

13. (Currently Amended) An electroless plating structure on a metal-six copper (M6 Cu) pad, having a composition comprising:

$pM_w sM_x B_y P_z$

wherein pM is a primary metal selected from at least one of Cu, Ag, Au, ~~Co~~, Pd, Pt, Ni, Rh, and Ir;

wherein sM is a secondary metal selected from zero to at least one of Cr, Mo, W, Mn, Tc, and Re;

wherein B and P represent boron and phosphorus, respectively; and

wherein w has a range from about 0.5 to about 0.99, x has a range from about 0.0 to about 0.2, y has a range from about .01 to about 0.1, and z has a range from ~~about~~ 0.0 to about 0.02.

14. (currently amended) The electroless plating structure according to claim 13, further including wherein the composition of $pM_w sM_x B_y P_z$ a metal compound is selected from the group consisting of: $Cu_p MB$, $Cu_p MBP$, $Cu_p MCrB$, $Cu_p MCrBP$, $Cu_p MMoB$, $Cu_p MMoBP$, $Cu_p MWB$, $Cu_p MWBP$, $Cu_p MMnB$, $Cu_p MMnBP$, $Cu_p MTcB$, $Cu_p MTcBP$, $Cu_p MReB$, $Cu_p MReBP$, $Cu_p MNiB$, $Cu_p MNiBP$, $Cu_p MNiCrB$, $Cu_p MNiCrBP$, $Cu_p MNiMoB$, $Cu_p MNiMoBP$, $Cu_p MNiWB$, $Cu_p MNiWBP$, $Cu_p MNiMnB$, $Cu_p MNiMnBP$, $Cu_p MNiTcB$, $Cu_p MNiTcBP$, $Cu_p MNiReB$, and $Cu_p MNiReBP$.

15. (currently amended) The electroless plating structure according to claim 14, wherein $pMCu$ is substituted or accompanied by comprises at least one of Cu, Ag and Au.

16. (currently amended) The electroless plating structure according to claim 13,
further including wherein the composition of $pM_w sM_x B_y P_z$ a metal compound is selected from the group consisting of: Ni_pMB, Ni_pMBP, Ni_pMCrB, Ni_pMCrBP, Ni_pMMoB, Ni_pMMoBP, Ni_pMWB, Ni_pMWBP, Ni_pMMnB, Ni_pMMnBP, Ni_pMTcB, Ni_pMTcBP, Ni_pMReB, Ni_pMReBP, Ni_pCeB, Ni_pCeBP, Ni_pCeCrB, Ni_pCeCrBP, Ni_pCeMoB, Ni_pCeMoBP, Ni_pCeWB, Ni_pCeWBP, Ni_pCeMnB, Ni_pCeMnBP, Ni_pCeTeB, Ni_pCeTeBP, Ni_pCeReB, and Ni_pCeReBP.

17. (currently amended) The electroless plating structure according to claim 16, wherein $pMNi$ is substituted or accompanied by comprises at least one of Ni, Pd and Pt.

18. (currently amended) The electroless plating structure according to claim 13,
further including wherein the composition of $pM_w sM_x B_y P_z$ a metal compound is selected from the group consisting of: CoB, CoBP, Co_pMCrB, CoCrBP, CoMoB, CoMoBP, CoWB, CoWBP, Co_pMMnB, Co_pMnBP, Co_pMTcB, Co_pTeBP, Co_pMReB, Co_pReBP, Ni_pCo_pMB, Co_pPdBP, Co_pMPdCrB, Co_pPdCrBP, Co_pMPdMoB, Co_pPdMoBP, Co_pMPdWB, Co_pPdWBP, Co_pMPdMnB, Co_pPdMnBP, Co_pMPdTcB, Co_pPdTcBP, Co_pMPdReB, and Co_pPdReBP.

19. (currently amended) The electroless plating structure according to claim 18, wherein ~~pMCo~~ is substituted or accompanied by comprises at least one of Co, Rh and Ir.

20. (currently amended) The electroless plating structure according to claim 13, wherein the primary metal is a metal combination selected from cobalt-nickel, cobalt-nickel-silver, cobalt-nickel-silver-copper, cobalt-silver, cobalt-silver-copper, cobalt-copper, cobalt-copper-nickel, nickel-silver, nickel-silver-copper, nickel-copper, and silver-copper.

21. (original) The electroless plating structure according to claim 13, wherein the primary metal is selected from MP, MB, MPB, MW, MWP, MWBP, MNiP, MNiWP, MReP, MReBP, and wherein M is a metal combination selected from cobalt-nickel, cobalt-nickel-silver, cobalt-nickel-silver-copper, cobalt-silver, cobalt-silver-copper, cobalt-copper, cobalt-copper-nickel, nickel-silver, nickel-silver-copper, nickel-copper, and silver-copper.

22. (New) The electroless plating structure according to claim 13, wherein the composition of $pM_w sM_x B_y P_z$ is selected from the group consisting of: CoRhB, CoIrB, CoRhIrB, CoRhMoB, CoIrMoB, CoRhIrMoB, CoRhWB, CoIrWB, and CoRhIrWB.

23. (New) An electroless plating structure on a conductive pad, having a composition comprising:

$pM_w sM_x B_y P_z$

wherein pM is a primary metal selected from at least one of Cu, Ag, Au, Co,

Pd, Pt, Ni, Rh, and Ir;

wherein sM is a secondary metal selected from zero to at least one of Cr, Mo,

W, Mn, Tc, and Re;

wherein B and P represent boron and phosphorus, respectively; and

wherein w has a range from about 0.5 to about 0.99, x has a range from about

0.0 to about 0.2, y has a range from about .01 to about 0.1, and z has a range from a

value approaching but not equal to 0.0 to about 0.02.

24. (new) The electroless plating structure according to claim 23, wherein the composition of $pM_w sM_x B_y P_z$ is selected from the group consisting of: pMBP, pMCrBP, pMMoBP, pMWBP, pMMnBP, pMTcBP, pMReBP, pMPdBP, pMPdCrBP, pMPdMoBP, pMPdWBP, pMPdMnBP, pMPdTcBP, and pMPdReBP.

25. (new) The electroless plating structure according to claim 24, wherein pM comprises at least one of Co, Rh and Ir.

26. (New) An electroless plating structure on a conductive pad, having a composition comprising:

$Co_w sM_x B_y P_z$

wherein sM is a secondary metal selected from zero to at least one of Cu, Ag,

Au, Pd, Pt, Ni, Rh, Ir, Cr, Mn, and Tc;

wherein Co, B and P represent cobalt, boron and phosphorus, respectively;

and

wherein w has a range from about 0.5 to about 0.99, x has a range from about 0.0 to about 0.2, y has a range from about .01 to about 0.1, and z has a range from a value approaching but not equal to 0.0 to about 0.02.

27. (new) The electroless plating structure of claim 26 wherein the composition of $Co_w sM_x B_y P_z$ is selected from the group consisting of: sMCoB, sMCoBP, sMCoCrB, sMCoCrBP, sMCoMoB, sMCoMoBP, sMCoWB, sMCoWBP, sMCoMnB, sMCoMnBP, sMCoTcB, sMCoTcBP, sMCoReB, and sMCoReBP.

28. (new) The electroless plating structure according to claim 27, wherein sM comprises at least one of Ni, Pd and Pt.